To: DeYoung, Robyn[DeYoung.Robyn@epa.gov]; Jeremy Fisher[jfisher@synapse-energy.com]

Cc: 'Chris.Lamie@erg.com'[Chris.Lamie@erg.com]; Nidhi R. Santen[nrsanten@synapse-

energy.com]

From: Ariel Horowitz

Sent: Tue 11/10/2015 4:14:19 PM

Subject: RE: AVERT avoided emissions by region, 5% reduction

AVERT RapidRateCalc - CPPD - full - corrected.xlsx

AVERT 2014 National and State Displaced Emissions Rates - 5pct Red - corrected.xlsx

Hi, Robyn,

My apologies!! The previous number was correct. Updated files are attached.

Best,

Ariel

From: DeYoung, Robyn [mailto:DeYoung.Robyn@epa.gov]

Sent: Tuesday, November 10, 2015 9:35 AM

To: Ariel Horowitz <a horowitz@synapse-energy.com>; Jeremy Fisher <jfisher@synapse-

energy.com>

Cc: 'Chris.Lamie@erg.com' < Chris.Lamie@erg.com>; Nidhi R. Santen < nrsanten@synapse-

energy.com>

Subject: RE: AVERT avoided emissions by region, 5% reduction

Hi Jeremy, Ariel and Nidhi,

I appreciate you sending me the AVERT values. I'm having problems reconciling the numbers I just received with the one you generated for me in September 2015.

In September of this year, you all sent me a 2014 value for National Weighted Average portfolio EE lbs/MWh value = 1443.

| This new spreadsheet calculates this value of 1433 lbs/MWh. |
|---|
| Which one is the correct value? |
| I've attached the spreadsheet sent in September for you to investigate. |
| Thanks, |
| Robyn |
| From: Ariel Horowitz [mailto:ahorowitz@synapse-energy.com] |
| Sent: Monday, November 09, 2015 5:17 PM To: DeYoung, Robyn < DeYoung.Robyn@epa.gov >; Jeremy Fisher < jfisher@synapse- |
| energy.com> Cc: 'Chris.Lamie@erg.com' < Chris.Lamie@erg.com>; Nidhi R. Santen < nrsanten@synapse- |
| energy.com> Subject: RE: AVERT avoided emissions by region, 5% reduction |
| Subject. RE. A VERT avoided emissions by region, 576 reduction |
| Hi, Robyn, |
| Please see the attached, which has lbs/MWh for CO2 as requested. |
| Please let me know if you have any questions or want any other changes made! |
| Best, |
| Ariel |
| |

From: DeYoung, Robyn [mailto:DeYoung.Robyn@epa.gov]

Sent: Monday, November 09, 2015 12:39 PM **To:** Jeremy Fisher < ifisher@synapse-energy.com>

Cc: Ariel Horowitz ; 'Chris.Lamie@erg.com"> (Chris.Lamie@erg.com">; Nidhi R. Santen nrsanten@synapse-energy.com

Subject: RE: AVERT avoided emissions by region, 5% reduction

Thanks Jeremy and Synapse team!

This is great. Sometime, by mid-week could you also add lbs/MWh values for the CO2 information?

Robyn

From: Jeremy Fisher [mailto:jfisher@synapse-energy.com]

Sent: Monday, November 09, 2015 12:01 PM

To: DeYoung, Robyn < DeYoung.Robyn@epa.gov >

Cc: Ariel Horowitz ; 'Chris.Lamie@erg.com" < : Chris.Lamie@erg.com>; Nidhi R. Santen : Santen <a href="mailto:syna

Subject: RE: AVERT avoided emissions by region, 5% reduction

Robyn,

I'm attaching our estimates of national avoided emissions rates and state-by-state weighted average avoided emissions rates.

Please let me know if you have any questions

Thanks!

-Jeremy

From: DeYoung, Robyn [mailto:DeYoung.Robyn@epa.gov]

Sent: Monday, November 09, 2015 11:31 AM

To: Jeremy Fisher < jfisher@synapse-energy.com >

Subject: RE: AVERT avoided emissions by region, 5% reduction

HI Jeremy,

Thanks for sending me these tables. The regional data is helpful to see. I need to get back to Denise today on:

- National weighted average emission rates for wind. (t/MWh and lbs/Mwh)

Could you all send that to me today before 3pm.

Thanks,

Robyn

From: Jeremy Fisher [mailto:jfisher@synapse-energy.com]

Sent: Friday, November 06, 2015 10:56 AM

To: DeYoung, Robyn < DeYoung.Robyn@epa.gov >

Cc: Ariel Horowitz synapse-energy.com; 'Chris.Lamie@erg.com' Synapse-energy.com; Nidhi R. Santen synapse-energy.com>

Subject: AVERT avoided emissions by region, 5% reduction

Robyn,

I'm attaching the first version of the AVERT avoided emissions by region with a 5% reduction. We've kept all four profiles from our previous analysis (wind, solar, profile DSM and baseload DSM). The primary difference between this analysis and the analysis for the EIC paper is that this (a) includes SO2, and (b) accounts for ozone season and non-ozone season.

Ariel is currently working on creating a national weighted average rate and parsing these results into individual state estimates on the basis of the guidance we provide in the AVERT manual. I

don't think that will take too long.

We should have ERTAC results soon too.

Cheers

-Jeremy

Jeremy Fisher, PhD

Principal Consultant

Synapse Energy Economics

485 Massachusetts Ave., Suite 2

Cambridge, MA 02139

617.453.7045 (Direct)

617.661.3248 (Synapse Main)

617.661.0599 (Fax)